

January 24, 2001

Mr. John H. Mueller
Chief Nuclear Officer
Niagara Mohawk Power Corporation
Nine Mile Point Nuclear Station
Operations Building, 2nd Floor
P.O. Box 63
Lycoming, NY 13093

SUBJECT: NINE MILE POINT NUCLEAR STATION, UNIT 1 - NRC FIRE PROTECTION
INSPECTION REPORT NO. 05000220/2000-009

Dear Mr. Mueller:

On December 15, 2000, the NRC completed a triennial fire protection team inspection at your Nine Mile Point Nuclear Station, Unit 1. The enclosed report documents the inspection findings which were discussed on December 15, 2000, with Messrs. J. Conway, R. Abbott, C. Terry, and other members of your staff.

This inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The purpose of the inspection was to evaluate your post-fire safe shutdown capability and fire protection program. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

The scope of this inspection was reduced in accordance with the September 22, 2000, revision to Inspection Procedure 71111.05, "Fire Protection." Specifically, the analyses of associated circuits which could cause malfunction of post-fire safe shutdown equipment were not reviewed. The issue of appropriate criteria for evaluating associated circuits is the subject of a voluntary industry initiative. These analyses may be reviewed following the completion of the industry initiative.

No findings of significance were identified.

J. H. Mueller

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Sincerely,

/J. C. Linville Acting for RA/

Wayne D. Lanning, Director
Division of Reactor Safety

Docket No. 05000220

License Nos. DPR-63
NPF-69

Enclosure: NRC Inspection Report 05000220/2000-009

cc w/encl:

G. Wilson, Esquire

M. Wetterhahn, Winston and Strawn

J. Rettberg, New York State Electric and Gas Corporation

P. Eddy, Electric Division, Department of Public Service, State of New York

C. Donaldson, Esquire, Assistant Attorney General, New York Department of Law

J. Vinquist, MATS, Inc.

F. Valentino, President, New York State Energy Research and Development Authority

J. Spath, Program Director, New York State Energy Research and Development Authority

T. Judson, Central NY Citizens Awareness Network

J. H. Mueller

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Distribution w/encl: **(VIA E-MAIL)**
H. Miller, RA/J. Wiggins, DRA (1)
M. Evans, DRP
J. Shea, RI EDO Coordinator
E. Adensam, NRR (ridsnrrdlpmlpdi)
P. Tam, NRR
D. Thatcher, NRR
J. Wilcox, NRR
G. Hunegs, SRI - Nine Mile Point
W. Cook, DRP
R. Junod, DRP
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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No: 50-220

License Nos: DPR-63

Report No: 50-220/00-09

Licensee: Niagara Mohawk Power Corporation

Facility: Nine Mile Point Nuclear Station

Location: P.O. Box 63
Lycoming, NY 13093

Dates: December 11 - 15, 2000

Inspectors: R. Fuhrmeister, Sr. Reactor Inspector, Division of Reactor Safety
L. Scholl, Sr. Reactor Inspector
A. Della Greca, Sr. Reactor inspector
K. Young, Reactor Inspector
B. Fuller, Resident Inspector, Division of Reactor Projects

Approved By: W. Ruland, Chief
Electrical Engineering Branch
Division of Reactor Safety

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SUMMARY OF FINDINGS

IP 05000220-00-09, on 12/11/00 - 12/15/00, Niagara Mohawk Power Corporation, Nine Mile Point Nuclear Station, Unit 1, Fire Protection

The inspection was conducted by a team composed of regional specialists and a resident inspector. The significance of issues is indicated by their color (Green, White, Yellow, Red) using IMC 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply are indicated by "no color" or by the severity level of the applicable violation.

A. Inspector Identified Findings

Cornerstone: Initiating Events

No findings of significance were identified.

Cornerstone: Mitigating Systems

No findings of significance were identified.

Report Details

Background

This report presents the results of a triennial fire protection team inspection conducted in accordance with NRC Inspection Procedure (IP) 71111.05, "Fire Protection." The objective of the inspection was to assess whether NMPC has implemented an adequate fire protection program and that post-fire safe shut down capabilities have been established and are being properly maintained. Fire zones were selected for detailed review based on risk information in the Individual Plant Evaluation for External Events. Fire zones chosen for the inspection were the Auxiliary Control Room (CR), Turbine Building 250' Elevation South and West (T2B), Turbine Building 261' Elevation South (T3B), Reactor Building 261' Elevation West (R2B), and Reactor Building 237' Elevation West (R1B).

This inspection was a reduced scope inspection in accordance with the September 22, 2000, revision to inspection procedure 71111.05, "Fire Protection." Issues regarding equipment malfunction due to fire-induced failures of associated circuits were not inspected. Criteria for review of fire-induced circuit failures are currently the subject of a voluntary industry initiative. The definition of associated circuits of concern used was that contained in the March 22, 1982, memorandum from Mattson to Eisenhut, which clarified the requests for information made in Generic Letter 81-12.

REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems

1R05 Fire Protection (71111.05)

.1 Fire Barrier Penetration Seals

a. Inspection Scope

During a plant tour, the team randomly selected three fire barrier penetration seals for detailed inspection to verify proper installation and qualification. The team reviewed associated design drawings, an Underwriters Laboratories, Inc. (UL) qualification test report, a fire barrier and penetration seal inspection procedure, and Nine Mile Point Unit 1 penetration seal evaluations. The team compared the observed in-situ seal configurations to the design drawings and tested configurations. The team also compared the penetration seal ratings with the ratings of the barriers in which they were installed.

b. Findings

No findings of significance were identified.

.2 Fire Barrier Systems

a. Inspection Scope

The team reviewed the adequacy of the design of the fire area boundaries, fire doors and fire dampers for the plant areas selected to ensure that they met their licensing and design bases.

b. Findings

No findings of significance were identified.

.3 Post-Fire Safe Shutdown Emergency Lighting

a. Inspection Scope

The team observed the placement and aim of emergency lights throughout the selected fire areas to evaluate their adequacy for illuminating access and egress pathways and any equipment requiring local operation for post-fire safe shutdown.

The team reviewed preventative maintenance procedures, surveillance procedures, and engineering evaluation documents to determine if adequate surveillance testing was being accomplished to ensure operation of the emergency lights. These procedures and documents included emergency lighting inspections, battery emergency light testing, and an engineering evaluation that established design, testing, surveillance, maintenance, replacement receipt inspection, and storage requirements for Appendix R emergency lights.

b. Findings

No findings of significance were identified.

.4 Programmatic Controls

a. Inspection Scope

During tours of the facility, the team observed the material condition of fire protection systems and equipment, the storage of permanent and transient combustible materials, and the control of ignition sources. The team also reviewed the procedures that controlled hotwork activities and combustibles at the site.

b. Findings

No findings of significance were identified.

.5 Manual Fire Suppression Equipment

a. Inspection Scope

The team walked down selected standpipe systems, carbon dioxide (CO₂) hose reels, and portable extinguishers to determine the material condition of manual fire fighting systems. Additionally, the team reviewed a safety evaluation (SE) that provided justification for removing foam injection capability into the manual fire suppression system. Electric fire pump flow, diesel fire pump flow, and pressure tests were also reviewed by the team to ensure that the pumps were meeting their design requirements. Additionally, the team reviewed recent fire main loop flow tests to ensure adequate flow could be delivered to hose and sprinkler systems.

The team inspected the fire brigade's protective ensembles, self-contained breathing apparatus (SCBA), portable communications equipment, recent fire drill critiques and various other fire brigade equipment to determine operational readiness for fire fighting. The team also reviewed fire drill training scenarios in the selected fire areas to determine the adequacy of the drills.

b. Findings

No findings of significance were identified.

.6 Alternative Shutdown Capability

a. Inspection Scope

The team reviewed the Updated Final Safety Analysis Report (UFSAR), Appendix 10A, Revision 16, "Fire Hazards Analysis," and Appendix 10B, Revision 16, "Safe Shutdown Analysis," to evaluate the methods and equipment used to achieve hot shutdown following postulated fires in the Turbine Building (Fire Zone T2B and T3B), the Auxiliary Control Room (Fire Zone C2), and the Reactor Building (Fire Zone R1B and R2B) at Nine Mile Point Unit 1. The team further reviewed piping and instrumentation drawings (P&IDs) for post-fire safe shutdown systems to determine required components for establishing flow paths, identify equipment required to isolate flow diversion paths, and verify appropriate components are on the safe shutdown equipment list. The team also performed field walkdowns to evaluate the protection of the equipment from the effects of fires.

The team reviewed selected alternate shutdown components and their control circuits to ensure that proper isolation was provided for alternate shutdown capability and performed field walk-downs to evaluate the protection of the equipment from the effects of fires.

Post-fire shutdown procedures for the selected areas were reviewed to determine if appropriate information is provided to plant operators to identify protected equipment and instrumentation and if recovery actions specified in post-fire shutdown procedures consider manpower needs for performing restorations and area accessibility. The team also reviewed training lesson plans and job performance measures for the alternative

shutdown procedures, discussed training with licensed operators, reviewed selected alternate shutdown circuitry, reviewed minimum shift manning required by technical specifications, and evaluated the accessibility of the alternative shutdown operating stations and the accessibility of required manual action locations.

b. Findings

No findings of significance were identified.

.7 Operational Implementation of Alternative Shutdown Capability

a. Inspection Scope

The team walked down, with a licensed operator, performance of Attachment 3 to SOP-09 to shut any inadvertently stuck open electro-matic relief valves by removing fuses. The team evaluated communications, lighting and fire hazards in the vicinity of the junction box containing the fuses.

The team walked down, with a licensed operator, performance of SOP-09.1, In-plant E (a specific shift position for an in-plant operator) actions to strip loads off the DC buses when off-site power is lost. The team evaluated communications, lighting and fire hazards in vicinity of equipment requiring operator actions, and along the access and egress paths.

b. Findings

No findings of significance were identified.

.8 Fixed Fire Suppression Systems

a. Inspection Scope

The team reviewed the adequacy of the automatic Halon and manual CO₂ fire suppression systems in the auxiliary control room. This included a walkdown of the systems and a review of the discharge and functional tests. Automatically actuated fixed sprinkler fire suppression systems were also reviewed. This review included hydraulic calculations, functional tests and field walkdowns of selected systems including the automatic sprinkler systems in the turbine building.

b. Findings

No findings of significance were identified.

.9 Communications

a. Inspection Scope

The team reviewed Nine Mile Point Unit 1's communication plan, emergency communications procedure, portable radio system transponder location, and discussed portable radio communication procedure with a fire brigade leader to determine if communications could be maintained in the event of a fire at the site.

b. Findings

No findings of significance were identified.

.10 Fire Detection Systems

a. Inspection Scope

The team reviewed the adequacy of the fire detection system in the selected plant fire zones in the auxiliary control room, turbine building, and reactor building. This included a walkdown of the systems and a review of fire detection installation drawings. Additionally the team reviewed surveillance procedures to determine the adequacy of fire detection component testing.

b. Findings

No findings of significance were identified.

.11 Safe Shutdown Circuit Analyses

a. Inspection Scope

The team reviewed the Nine Mile Point Unit 1 Appendix R Safe Shutdown Analysis to assess the adequacy of the methodology applied in the analysis. The team also reviewed assumptions utilized in the analysis, the application of NRC guidance and the adequacy of engineering evaluations of design vulnerabilities. The team reviewed power and control cable routing for a sample of components required for post-fire safe shutdown to determine if the cables were properly routed outside the fire area of concern or protected against the effects of fire.

The team reviewed electrical fuse and circuit breaker coordination studies to ensure equipment needed to conduct post-fire safe shutdown activities would not be impacted due to a lack of coordination. The team also reviewed the electrical isolation capability of selected equipment needed for post-fire safe shutdown to ensure that such equipment could be operated from the remote shutdown panels if needed.

The team reviewed equipment located in the primary containment that is credited for post-fire safe shut down to determine if it would remain operable following the operation of the containment spray system as a result of the hot shutdown methodology for a fire in zone T3B.

Due to the issuance of Change Notice 00-020 against Inspection Procedure 71111.05, "Fire Protection," the team did not review associated circuit issues during this inspection. This change notice has suspended this review pending completion of an industry initiative in this area.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA2 Identification and Resolution of Problems

.1 Corrective Actions for Fire Protection Deficiencies

a. Inspection Scope

The team reviewed the fire impairments log and selected deviation/event reports (DERs) for post-fire safe shutdown equipment to evaluate the licensee's effectiveness of corrective actions and the prioritization for resolving fire protection related deficiencies. A number of the reviewed DER issues were placed into the licensee's corrective action process as a result of a recent fire protection quality assurance (QA) audit. The team's review was conducted to determine if Niagara Mohawk was identifying fire protection program deficiencies and implementing appropriate corrective actions.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

.1 Exit Meeting Summary

The inspectors presented their preliminary inspection results to Mssrs. J. Conway, R. Abbot, C. Terry, and other members of the Niagara Mohawk Power Corporation staff at an exit meeting on December 15, 2000.

The inspectors asked whether any materials examined during the inspection should be considered proprietary. None of the information reviewed during the inspection was identified as proprietary.

(1) NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety

- Initiating Events
- Mitigating Systems
- Barrier Integrity
- Emergency Preparedness

Radiation Safety

- Occupational
- Public

Safeguards

- Physical Protection

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: <http://www.nrc.gov/NRR/OVERSIGHT/index.html>

(2) SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Niagara Mohawk Power Corporation

J. Conroy, VP Generation
R. Abbot, VP Engineering
C. Terry, VP Nuclear Quality Assurance
L. Hopkins, Plant Manager
R. Randall, Unit 1 Engineering Manager
P. Mazzaferro, Unit 1 Technical Support Manager
D. Topley, Unit 1 Operations Manager
L. Pisano, Training Manager
D. Goodney, Unit 1 Electrical Design Supervisor
T. Mogren, Unit 1 Mechanical Design Supervisor
A. Blum, Engineering Programs Supervisor
J. Guariglia, Fire Protection Supervisor
D. Aulenbach, Project Engineer
S. Savar, Unit 1 Appendix R Engineer
T. Casey, Unit 1 Appendix R Consultant
J. VanValkenburg, Quality Assurance Engineer
F. Sufczinski, Unit 1 Appendix R Consultant
L. Kachnik, Analysis Services Engineer
R. Gurney, Unit 1 Electrical Maintenance Engineer
J. Helker, Unit 1 Operations Support Engineer
K. Embry, Licensing Engineer
D. Morr, Shift Supervisor
F. Lukazik, Shift Supervisor
F. Cann, Fire Protection Program Manager

Nuclear Regulatory Commission

E. Weiss, Chief, Fire Protection Section, Division of Safety Systems Analysis, Office of Nuclear Reactor Regulation
G. Hunegs, Senior Resident Inspector
R. Fernandes, Resident Inspector

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

Discussed

None

(3) LIST OF ACRONYMS USED

AC	Alternating Current
ADS	Automatic Depressurization System
BB	Battery Board
CFR	Code of Federal Regulations
CO ₂	Carbon Dioxide
DER	Deviation/Event Report
ECs	Emergency Condensers
EDG	Emergency Diesel Generator
FHA	Fire Hazards Analysis
FPEE	Fire Protection Engineering Evaluation
LDCR	Licensing Document Change Request
NRC	Nuclear Regulatory Commission
P&ID	Piping and Instrumentation Drawing
PB	Power Board
RPS	Reactor Protection System
RSP	Remote Shutdown Panel
SE	Safety Evaluation
UFSAR	Updated Final Safety Analysis Report

(4) LIST OF DOCUMENTS REVIEWED

Piping and Instrumentation Drawings

C-18030-C, Sheet 2, Revision 14, Fire Protection Foam and Spray Water
C-18030-C, Sheet 3, Revision 3, Fire Protection Water System
C-18030-C, Sheet 4, Revision 12, Fire Protection Water System
C-18030-C, Sheet 5, Revision 16, Fire Protection Water System
C-18030-C, Sheet 6, Revision 24, Fire Protection Water System
C-18030-C, Sheet 7, Revision 16, Fire Protection Water System
C-18030-C, Sheet 8, Revision 10, Fire Protection Water System
C-18030-C, Sheet 9, Revision 6, Fire Protection Water System
C-18039-C, Sheet 3, Revision 7, CARDOX Fire Extinguishing System
C-18007-C, Sheet 1, Rev. 51, Reactor Core Spray P & I Diagram
C-18007-C, Sheet 2, Rev. 04, Reactor Core Spray P & I Diagram
C-18012-C, Sheet 1, Rev. 22, Reactor Containment Spray Raw Water System P & I Diagram
C-18012-C, Sheet 2, Rev. 43, Reactor Containment Spray System P & I Diagram
C-18017-C, Sheet 1, Rev. 50, Emergency Cooling System P & I Diagram
C-18026-C, Sheet 1, Rev. 17, Emergency Diesel Generator #102 Starting Air, Cooling Water,
Lube Oil & Fuel P & I Diagram

Control Circuit Schematics

Calculations

Low Pressure Carbon Dioxide Flow Calculation, 10/16/89, Unit 1 Aux. Control Room
Low Pressure Carbon Dioxide Flow Calculation, 10/16/89, Cable Spreading Room
FPEE-1-90-013, 2/7/91, "Safe Shutdown Barrier Analysis"
FPEE-1-90-016, 11/25/90, "Fire Protection/Appendix R Separation Analysis of NMP-1 Battery
Charger MG Sets 161 and 171 and Associated Cables between PB 16/17 and BB
11/12"
S13.1-100-F002, Rev. 0, "Fire Protection Water Supply"
4160VAC-PB102 & 103-PDCS, Rev. 0, "Coordination and Protection Study for PB 102 and
103"
600VAC-PB16-PDCS, Rev. 1, "Power Board 16 Coordination Study"
600VAC-PB17-PDCS, Rev. 1, "Power Board 17 Coordination Study"
125VDC-BB11/BB12-PDCS, Rev. 0, "Coordination Study for Battery Boards #11 and #12"
120VAC-RPS11/12-PDCS, Rev. 1, "RPS Buses 11 and 12 Fuse Coordination"

Safe Shutdown Analyses

Procedures

EPIP-EPP-17,, Revision 5, Emergency Communications Procedure
EPMP-EPP-06, Revision 8, Emergency Response Organization Notification Maintenance and
Surveillance

(4) LIST OF DOCUMENTS REVIEWED (Cont.)

EPMP-EPP-08, Revision 6, Maintenance Testing and Operation of the Oswego County Prompt Notification System

GAP-FPP-02, Revision 5, Control of Hot Work

GAP-INV-02, Revision 9, Control of Material Storage Areas

N1-FPI-PFP-0101, Revision 0, Unit 1 Pre-Fire Plans

N1-FPM-LOG-A001, Revision 5, Battery Emergency Light Test

N1-FPM-LOG-A001, Revision 6, Battery Emergency Light Test

N1-FPM-LOG-M001, Revision 4, Emergency Lighting Inspection

N1-FST-FPG-C002, Revision 0, Halon System Functional Test

N1-FST-FPG-SA001, Revision 3, Halon System Storage Tank Weight/Press. Check

N1-FST-FPP-C001, Revision 4, Fire Barrier/Penetration Sealing Inspection

N1-FST-FPP-C001, Revision 5, Fire Barrier/Penetration Sealing Inspection

N1-FST-FPL-SA008, Revision 6, Low Pressure Carbon Dioxide System Functional Test

N1-FST-FPM-A001, Revision 1, Operability Test of Fire Detection Zones

N1-FST-FPW-C003, Revision 1, Fire Protection Preaction Deluge and Automatic Sprinkler Test

N1-FST-FPW-3A001, Revision 3, Fire Protection Water System Flow Test

N1-FST-FPW-3A001, Revision 4, Fire Protection System Flow Test

N1-OP-21A, Revision 5, Fire Protection System - Water

N1-OP-21B, Revision 4, Fire Protection System - Foam Water

N1-OP-21C, Revision 5, Fire Protection System - LP/HP CO₂

N1-OP-21C, Revision 6, Fire Protection System - LP/HP CO₂

N1-OP-21D, Revision 6, Fire Protection System - Halon 1301

N1-OP-21E, Revision 4, Fire Protection System - Fire Detection

N1-PM-C3, Revision 2, Electric and Diesel Fire Pump Performance Tests

N1-PM-C3, Revision 3, Electric and Diesel Fire Pump Performance Tests

N1-PM-W9, Revision 3, Fire Protection System - Weekly Operation of Fire Pumps

EPMP-EPP-02, Revision 20, "Emergency Equipment Inventories and Checklists"

NAI-OUT-02, Revision 02, "Work Control Action Request Screening Evaluation Process"

N1-DRP-GEN-004, Revision 05, "Emergency Damage Repair For Fire Zones C2 and C3"

N1-ISP-036-003, Revision 02, "Hi-Lo Rx Water Level Instrument Trip Channel Test/Calibration"

N1-ISP-036-007, Revision 01, "Hi-Lo Reactor Pressure Trip Channel Test/Calibration"

N1-ISP-060-004, Revision 01, "Remote Shutdown Emergency Condenser Level Control Loop"

N1-ISP-201-044, Revision 01, "Torus Temperature Monitoring System Remote Shutdown Panels"

N1-ST-R12, Revision 07, "Initiation of ECs from RSP 11 and 12 Operability Test"

N1-DRP-GEN-004, Revision 05, "Emergency Damage Repair for Fire Zones C2 and C3"

N1 SOP-09, Revision 06, Fire in Plant

N1 SOP-09.1, Revision 05, Control Room Evacuation

N1 OP-13, Revision 30, Emergency Cooling System, Off-Normal Procedures, Operation of ECs from Remote Shutdown Panels

N1 OP-45, Revision 24, Emergency Diesel Generators, Off-Normal Procedures, EDG Raw Water Supply from Diesel Fire Pump

SOP-09, Attachment 3, Inadvertent Stuck Open ERV

SOP-09.1, Inplant E ,Operator actions to strip station Battery loads

(4) LIST OF DOCUMENTS REVIEWED (Cont.)

Corrective Action Program Documents

DER C-1999-3945, 11/23/1999
DER C-1999-4121, 12/14/1999
DER C-2000-0509, 2/17/2000
DER 1-1999-635, 3/2/1999
DER 1-2000-936, 3/13/2000
DER 1-2000-2313, 7/2/2000
DER 1-2000-2460, 7/19/2000
DER 1-2000-2972, 9/1/2000
DER 1-2000-3214, 9/21/2000
DER 1-2000-3215, 9/21/2000
DER 1-2000-3217, 9/21/2000
DER 1-2000-3586, 10/12/2000
DER 1-2000-3733, 10/22/2000

Training Documents

1-00.04,	11/19/00	Fire in Relay Cabinet, Aux. Control Room 261'
1-00.05,	11/20/00	Fire in Cable Tray CR237-N4, Reactor Building 237' West
1-00.06,	11/20/00	Fire in Cable Tray CR261-N4, Reactor Building 261' West
OS-FT-035-FHA-3-00, Rev. 1		Fire Hazards Analysis (FHA) for NMP Lesson Plan

Miscellaneous Documents

Exemption Requests - 10 CFR 50.48 Fire Protection and Appendix R to 10 CFR Part 50, Nine Mile Point Unit 1, March 21, 1983
Engineering Evaluation FPEE-0-97-001, Rev. 1, 10CFR, Appendix R, III.J Emergency DC Lighting
Engineering Specification #E-135, Revision 2, List of Lists - Fire Protection System - Fire Detectors Protecting Safety Related Equipment
Niagra Mohawk Internal Correspondence, 8/4/1981, Nine Mile 1 - Gaseous Fire Suppression System Tests
Nine Mile Point Unit 1 Fire Protection Evaluation Number NMP34570, Rev. 0, Penetration Seals UFSAR, Appendix 10A, Revision 16, Fire Hazards Analysis
UFSAR, Appendix 10B, Revision 16, Safe Shutdown Analysis
Underwriters Laboratory Inc. Testing NC601-1, -2, -3, -4, 11/17/1980, Floor and Wall Penetration Fire Stops
N1-SD-017, Revision 3, Fire Detection System - NMP Unit 1
N1-SD-018, Revision 5, Fire Suppression System - NMP Unit 1
N1-SD-019, Revision 2, Fire-Water Sprinkler Systems
N1-SD-020, Revision 2, Halon 1301 Systems
ND-SD-004, Revision 2, Carbon Dioxide System - NMP Unit 1

(4) LIST OF DOCUMENTS REVIEWED (Cont.)

Miscellaneous Drawings

- B-42346-C, Sheet 1, Revision 4, Nine Mile Point Nuclear Station Unit 1 Fire Penetration Seal Details
- B-42346-C, Sheet 2, Revision 2 Nine Mile Point Nuclear Station Unit 1 Fire Penetration Seal Details
- B-42346-C, Sheet 3, Revision 1 Nine Mile Point Nuclear Station Unit 1 Fire Penetration Seal Details
- C-34001-C, Sheet 1, Revision 17, Fire Protection System Turbine Bldg.
- C-34002-C, Revision 10, Fire Protection System Turbine Bldg.
- C-34003-C, Revision 5, Fire Protection System Turbine Bldg.
- C-34004-C, Sheet 1, Revision 10, Fire Protection System Turbine Bldg.
- C-34004-C, Sheet 2, Revision 2 Fire Protection System Turbine Bldg.
- C-34004-C, Sheet 3, Revision 3 Fire Protection System Turbine Bldg.
- C-34005-C, Sheet 1, Revision 4, Fire Protection System Turbine Bldg. And Off-Gas Bldg.
- C-34005-C, Sheet 2, Revision 0, Fire Protection System Turbine Bldg. And Off-Gas Bldg.
- C-34006-C, Revision 7, Fire Protection System Waste Disposal Bldg. and Turbine Bldg.
- C-34007-C, Revision 12, Fire Protection System Turbine Bldg.
- C-34008-C, Sheet1, Revision 11, Fire Protection System Turbine Bldg.
- C-34008-C, Sheet 2, Revision 3, Fire Protection System Turbine Bldg.
- C-34009-C, Revision 7, Fire Protection System Waste Disposal Bldg. and Turbine Bldg.
- C-34010-C, Revision 8, Fire Protection System Turbine Bldg.
- C-34011-C, Revision 3, Fire Protection System Turbine Bldg.
- C-34011-C, Revision 2, Fire Protection System Turbine Bldg.
- C-34917-C, Sheet 4, Revision 1, Fire Protection Aux. Cont. Rm. And Tel. Eqpt. Rm. Cylinder Arrangement Det's Halon 1301 Sys.
- C-34917-C, Sheet 5, Revision 3, Fire Protection Aux. Cont. Rm. And Tel. Eqpt. Rm. Cylinder Arrangement Det's Halon 1301 Sys.
- C-39591-C, Sheet 1, Revision 6, Appendix R Safe Shutdown Fire Walls and Floors
- C-39591-C, Sheet 2, Revision 7, Appendix R Safe Shutdown Fire Walls and Floors
- C-39591-C, Sheet 3, Revision 7, Appendix R Safe Shutdown Fire Walls and Floors
- C-39591-C, Sheet 4, Revision 5, Appendix R Safe Shutdown Fire Walls and Floors
- C-39591-C, Sheet 5, Revision 5, Appendix R Safe Shutdown Fire Walls and Floors
- C-39591-C, Sheet 6, Revision 4, Appendix R Safe Shutdown Fire Walls and Floors
- C-19437-C, Sheet 6, Revision 25, "Elementary Wiring Diagram 600 Volt Power Board 161B Control Circuits"
- C-19842-C, Sheet 1, Revision 10, "Electrical Diagram D.C. Valve Board #11"
- C-19845-C, Sheet 2, Revision 25, "Elementary Wiring Diagram D.C. Valve Board 12"
- C-19859-C, Sheet 8, Revision 44, "Elementary Wiring Diagram Reactor Protection System (Emergency Cooling Channel #11)"
- C-19940-C, Sheet 6, Revision 25, "Elementary Wiring Diagram 600 Volt Power Board 171B Control Circuits"
- C-22014-C, Sheet 1, Revision 16, "Interconnection Wiring Diagram Instrumentation Systems (Emergency Cooling)"
- C-22014-C, Sheet 2, Revision 09, "Interconnection Wiring Diagram Instrumentation Systems (Emergency Cooling)"
- C-22014-C, Sheet 3, Revision 09, "Interconnection Wiring Diagram Instrumentation Systems (Emergency Cooling)"
- C-22014-C, Sheet 4, Revision 16, "Interconnection Wiring Diagram Instrumentation Systems (Emergency Cooling)"

(4) LIST OF DOCUMENTS REVIEWED (Cont.)

- C-23269-C, Sheet 2, Revision 07, "Emergency Cooling System (Isolation) Interconnection Diagram"
- C-34812-C, Sheet 1, Revision 07, "Elementary Wiring Diagram Remote Reactor Shutdown System Miscellaneous Instruments"
- C-34812-C, Sheet 2, Revision 04, "Elementary Wiring Diagram Remote Reactor Shutdown System Miscellaneous Instruments (Switch Developments)"
- C-34813-C, Sheet 1, Revision 12, "Instrumentation Interconnection Wiring Diagram Remote Reactor Shutdown System (Channel 11)"
- C-34813-C, Sheet 2, Revision 01, "Instrumentation Interconnection Wiring Diagram Remote Reactor Shutdown System (Channel 11)"
- C-34813-C, Sheet 4, Revision 11, "Instrumentation Interconnection Wiring Diagram Remote Reactor Shutdown System (Channel 12)"
- C-34813-C, Sheet 5, Revision 01, "Instrumentation Interconnection Wiring Diagram Remote Reactor Shutdown System (Channel 12)"
- C-34815-C, Sheet 1, Revision 09, "Interconnection Diagram Remote Shutdown Panel (Channel 11)"
- C-34815-C, Sheet 2, Revision 06, "Interconnection Diagram Remote Shutdown Panel (Channel 11)"
- C-34815-C, Sheet 3, Revision 04, "Interconnection Diagram Remote Shutdown Panel (Channel 11 Junction Boxes)"
- C-34815-C, Sheet 4, Revision 03, "Interconnection Wiring Diagram Remote Shutdown Panel (Channel 12 Junction Boxes)"

Safety Evaluations/Change Requests

- SE 83-01, Revision 01, "Diesel Fire Pump Intertie To Emergency Service Water, Diesel Generator 102 Cooling Water and Diesel Generator 103 Cooling Water"
- SE 83-33, Revision 00, "Revision to Control Circuit of Reactor Head Vent Isolation Valves 37-01 (Fire Prot. -WP-2b) M.O. #3411"
- SE 84-18, Revision 00, "ADS Logic Modification"
- SE 84-35, Revision 00, "Emergency Condenser Logic Modifications - Appendix R (Work Pkg 5(b))"
- SE 84-57, Revision 00, "Removal of High Radiation Signals from the Emergency Condenser Isolation Logic"
- SE 97-133, Revision 0, Elimination of Fixed-Foam System
- LDCR 1-00-UFS-063, Revision 00, "Changes to UFSAR Section X, Appendix 10B"